

# Patent [19]

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## [54] PHOTOCATALYTIC EFFECT PROMOTION SYSTEM

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## [57] ABSTRACT

**PROBLEM TO BE SOLVED:** To make the rebonding of an excited hole with an electron hardly occur and promote cleaning effects so that a highly photocatalytic function can be maintained for a long time by forming such a structure that a conductive coat is formed on a substrate and a photocatalyst is coated on the conductive coat so as to enable voltage to be applied to the photocatalyst coat.

**SOLUTION:** When forming a photocatalyst coat 3, a substrate is, for example, a glass container 1, and a conductive coat 2 which is composed mainly of tin oxide and is light-transmissive and further, the photocatalyst coat 3 is formed on the conductive coat 2. The photocatalyst is titanium oxide, that is, a chemical solution obtained by hydrolyzing the alkoxide of titanium siluted with alcohol by an catalyst, is applied to the outer surface of a florescent lamp and the coat is baked to form the photocatalyst coat 3. When this photocatalyst coat 3 is applied to the use in a water cleaning system, voltage is applied to a space between an electrode 4 and an underwater counter electrode 5. Thus an excited electron generated in the photocatalyst is separated and swept to the counter electrode 5 through the conductive coat 2, so that the rebonding of a hole in the photocatalyst with an electron hardly occurs to promote the effects of the photocatalyst.

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